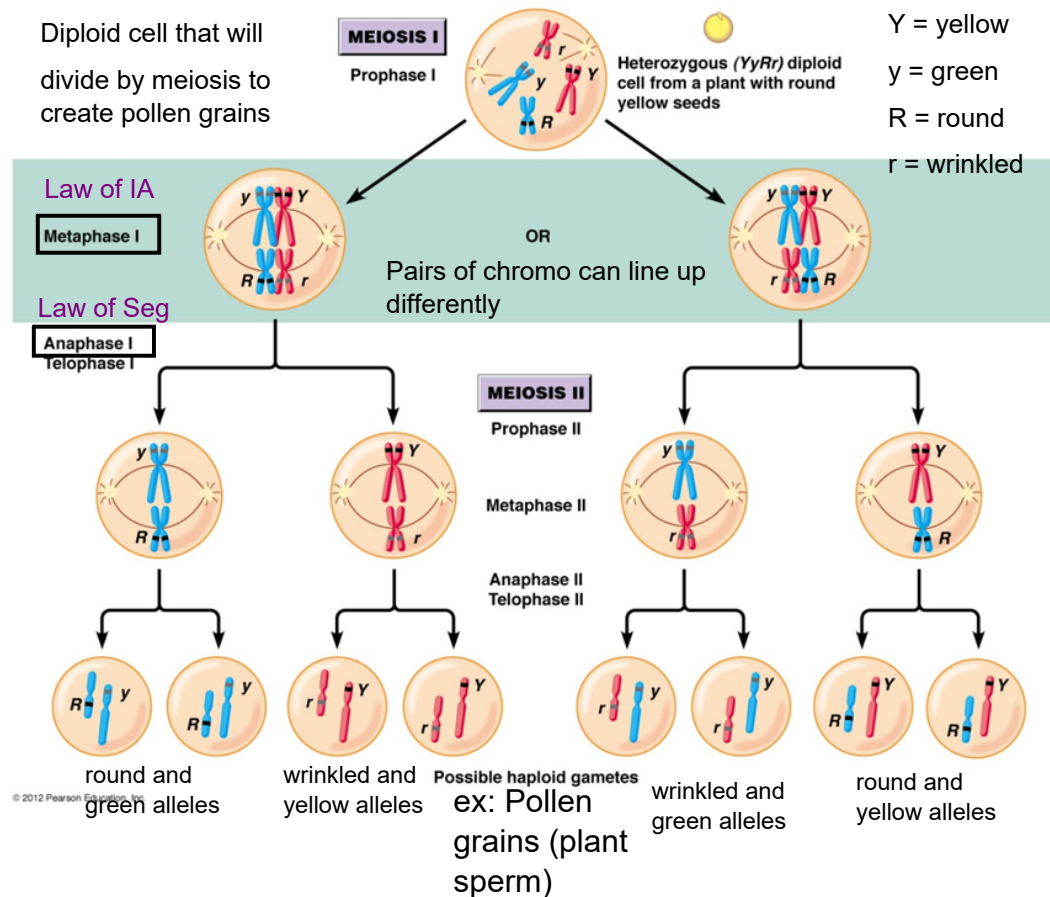


Law of Segregation and Independent Assortment



Blue chromosomes = paternal chromosomes (came from this plant's father)

Red chromosomes = maternal chromosomes (came from this plant's mother)

Each pair of homologous chromosomes contains a paternal and a maternal chromosome

Law of Independent Assortment (Law of IA): Because each pair of chromosomes can line up independently of the other pairs (along the metaphase plate during metaphase I), there are many possible combinations of paternal and maternal chromosomes (and the alleles on them) in the gametes

Law of Segregation (Law of Seg): During Anaphase I, pairs of homologous chromosomes separate, ultimately resulting in gametes with only one allele for each trait (ex: one R and one Y)